REMARKS

Reconsideration and withdrawal of the rejections of the claims, in view of the amendments and remarks herein, is respectfully requested. Claims 1 and 10-12 are amended, and claims 68-74 are added. The amendments are intended to advance the application and are not intended to concede to the correctness of the Examiner's position or to prejudice the prosecution of the claims present prior to amendment, which claims are in a continuing application of the above-identified pending application. Claims 1-74 are pending.

The 35 U.S.C. § 112, Second Paragraph, Rejection

Claims 1-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The amendments to claim 1, to recite "formed by the ligation" obviate the 35 U.S.C. § 112(2) rejection. Therefore, withdrawal of the § 112(2) rejection is respectfully requested.

The 35 U.S.C. § 112, First Paragraph, Rejections

Claims 1-12 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement (a "new matter" rejection). Specifically, the Examiner asserts that the specification as originally-filed does not provide support for "wherein the site in the recombinant vector formed by ligation of the 3' TA overhang and the end generated by *Sgf*I is 5' to the open reading frame, and wherein if the vector backbone has an open reading frame that is 5' to the site and is in frame with the open reading frame 3' to the site, the vector backbone includes a promoter that is operably linked to the open reading frame which is 5' to the site." This rejection is respectfully traversed.

In this regard, the Examiner is requested to consider Figures 14-16 (showing *Sgf*I vectors for cloning and expression or for fusions), page 54, lines 12-16, page 55, line 27-page 56, line 23, page 59, lines 22-25, and page 72, lines 18-24. For the Examiner's convenience, a copy of Figures 14-16 is enclosed herewith.

At page 54, lines 12-16 of the specification, it is disclosed that:

> the acceptor vector may include sequences 5' and/or 3' to the desirable restriction enzyme recognition sites which encode a peptide or polypeptide (fusion partner), which sequences, when operably linked to the DNA sequence of interest and expressed in a cell, cell lysate or *in vitro* transcription/translation system, yield a fusion protein (emphasis added).

Page 59 discloses that the acceptor vectors employed in the practice of the invention also contain one or more nucleic acid sequences that have some function in the expression of a protein, i.e., transcriptional regulatory sequences, for instance, inducible or repressible control sequences such as promoter or enhancer sequences (lines 22-25).

Page 56 discloses that :

> [t]o prepare expression vectors intended to generate a fusion protein by fusing a vector encoded peptide or protein located at the N-terminus of a fusion protein to a DNA sequence of interest (i.e., a translational fusion), the restriction enzyme recognition site is positioned in the correct reading frame such that 1) an open reading frame is maintained through the restriction enzyme recognition site on the acceptor vector and 2) the reading frame in the restriction enzyme recognition site on the acceptor vector is in frame with the reading frame found on the restriction enzyme recognition site contained within the donor vector. In addition, the appropriate restriction enzyme recognition site on the acceptor vector is designed to avoid the introduction of in-frame stop codons. The DNA sequence of interest contained within the donor vector is thus cloned in a particular reading frame in the acceptor vector so as to facilitate the creation of the desired N-terminal fusion protein (see lines 10-23).

At page 55, line 27-page 56, line 6 it is disclosed that:

> [t]o prepare expression vectors intended to generate defined fusions at the 5' end of an open reading frame (e.g., the acceptor vector does not contain sequences 5′ of the exchange site that encode a peptide or protein for fusion), a desired restriction enzyme recognition site is placed at the desired start of transcription in the vector. Care is taken to avoid introducing an ATG or start codon upstream of the exchange site that might initiate translation inappropriately. For instance, fusion of an overhang generated by *SgfI* digestion of an acceptor vector with a compatible overhang which is 5' to a start codon for an open reading frame in a DNA fragment can yield a recombinant vector containing a *de novo* start site for that open reading frame (emphasis added).

At page 72, lines 18-24 it is disclosed that the *SgfI/PmeI* approach can result in a recipient vector which encodes a protein with no additional residues at the N-terminus of the protein, e.g., one positioned 3' to a RBS or Kozak sequence or encoding a fusion protein with an N-terminal or C-terminal fusion of one or more amino acid residues (Figures 16-17 and Table I, which shows enzymes which generate blunt ends and the exchange site created by ligation of a blunt end generated by *PmeI* and a blunt end generated by each of those enzymes).

Thus, it is disclosed that sequences present in a vector backbone (acceptor vector) 5' and/or 3' to the site of insertion of a DNA fragment of interest may have an open reading frame that can be fused in frame to the open reading frame in the DNA fragment of interest. Moreover, the vector backbone may have an appropriately placed promoter to allow for expression of sequences of interest.

Therefore, the phrase "wherein the site in the recombinant vector formed by ligation of the 3' TA overhang and the end generated by *SgfI* is 5' to the open reading frame, and wherein if the vector backbone has an open reading frame that is 5' to the site and is in frame with the open reading frame 3' to the site, the vector backbone includes a promoter that is operably linked to the open reading frame which is 5' to the site" is supported by the specification.

Claims 10-12 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. This rejection, as it may be maintained with respect to the pending claims, is respectfully traversed.

Specifically, the Examiner asserts that the enzyme sites in claims 10-12 lack written description. Claims 10-12 are not directed to enzyme sites *per se* but rather to the product generated by the ligation of vector backbone sequences and a DNA fragment "insert" (although restriction endonuclease recognition sites may be present in the recited sequences). Those products are formed by 1) ligation of a 3' TA overhang generated by a restriction enzyme and an end generated by *SgfI* digestion, and 2) ligation of two blunt ends. It is Applicant's position that restriction enzymes that generate a 3' TA overhang and a blunt end are known in the art. Applicant need not teach what is well-known to the art. Hybritech Inc. v. Monoclonal Antibodies, Inc., 231 U.S.P.Q. 81, 84 (Fed. Cir. 1986). Originally-filed claims 10-12 and Figures 16-17 provide adequate written support for claims 10-12.

Accordingly, withdrawal of the § 112(1) "written description" rejections is respectfully requested.

The 35 U.S.C. § 102 Rejection

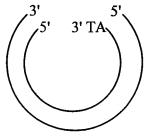
Claims 1-3 and 5-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by Bilcock et al. (J. Biol. Chem., 274:36379 (1999)) and BCCM-BCCM/LMBP plasmids catalogue (bccm.be.sp.be/db/lmbp_plasmid_details.php?NM=pAT153 website) (cited for informational purposes only). This rejection is respectfully traversed.

Bilcock et al. disclose 5 plasmids (pAT153, pDB7, pDB8, pNEB193 and pAB1, Figure 1) with a plurality of restriction endonuclease recognition sites designed to determine whether certain Type II enzymes that recognize a site with 8 specified base pairs require two sites per molecule or can cleave a molecule with only one site.

The Examiner asserts that sites for restriction enzymes that generate blunt ends are frequent in "the plasmid of Bilcock et al." and would be expected to be 3' to one of the *Sgf*I sites (page 2 of the Office Action). The Examiner points to the following as restriction enzymes that generate blunt ends: *Ssp*I, *Srf*I , *Sca*I, *Sap*I and *Eco*RV. The Examiner is requested to note that *Sap*I is not a blunt cutter. In particular, with regard to pDB8, the Examiner asserts that at least one of the *Sgf*I sites generates a 3' TA overhang that is 5' to at least one of the *Srf*I sites (page 3 of the Office Action).

The Examiner is respectfully reminded that the standard for anticipation is one of strict identity, and to anticipate a claim for a patent a single prior art source must contain all its elements. In re Dillon, 16 U.S.P.Q.2d 1987 (Fed. Cir. 1990).

If pDB7 is digested with *Sgf*I (the only recognition site shown in Figure 1 in Bilcock et al. that, once cleaved, generates a 3' TA overhang) and *Srf*I (the only recognition site shown in Figure 1 in Bilcock et al. that, once cleaved, generates a blunt end), or if pDB8 is digested with *Sgf*I and *Srf*I (note there are two cleavage sites for each of those restriction enzymes in pDB8) the following vector backbone is produced:



Another way to depict that molecule is as follows:

5'_____3'
3'TA_____5'.

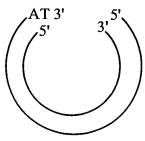
Although pDB7 and pDB8 may have sites for restriction endonucleases other than *Srf*I that generate blunt ends, some of which may have infrequent restriction sites in cDNAs or open reading frames from at least one species, cleavage with any one of those blunt cutters and *Sgf*I will yield the same structure as shown above (with varying amounts of internal sequence).

pAT153 is the parent for pDB7, which is the parent for pDB8. Figure 1 in Bilcock et al. does not show that pAT153 has a site for a restriction enzyme that generates a 3' TA overhang nor has the Examiner asserted that pAT153 has a site for a restriction enzyme that generates a 3' TA overhang.

Although pNEB193 and pAB1 may have sites for restriction endonucleases other than *Ssp*I, *Pvu*II or *Pme*I that generate blunt ends, some of which may have infrequent restriction sites in cDNAs or open reading frames from at least one species, cleavage with any one of those blunt cutters and *Pac*I will yield

5'_____3'
3'TA_____5'.

In contrast, digestion of Applicant's vector with a restriction enzyme that generates a 3' TA overhang, e.g., *Sgf*I, and a restriction enzyme that generates a blunt end, yields the following:



which may also be depicted as follows:

5'_____AT3'
3'_____5'.

Moreover, if the site for the blunt cutter in any of pNEB193, pAB1, pDB7 or pDB8 was in close proximity 5' to the site for the restriction endonuclease that generated the 3' TA overhang, the resulting fragment would likely not be suitable as a vector for cloning and/or expression, e.g., cloning or expression of an insert having an open reading frame.

Further, none of pNEB193, pAB1, pDB7 or pDB8 has an appropriately placed promoter to drive expression of an insert introduced at a site for a restriction endonuclease that generates a 3' TA overhang.

Accordingly, withdrawal of the § 102(b) rejection is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6959 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6959

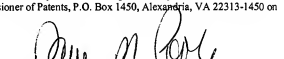
Date March 19, 2008

By: /Janet E. Embretson /
Janet E. Embretson
Reg. No. 39,665

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 19th day of March 2008.

Dawn M. Poole

Name



Signature